**4.2b Antiderivatives/ Indefinite Integration**

**Sketch the graph of two functions that have the given derivative.**

1. 2. 3.

**Use the initial condition to solve the differential equation (find the particular solution)**

4. 5.

6. 7.

8. Greenleaf nursery usually sells a certain tree after 6 years of growing and shaping. The growth rate for those years is approximated by the model , for (h) height after (t) years. The seedlings are 12” tall when planted *(t = 0)*.

a. Find the height for any year (t).

b. How tall are the trees when they are sold?

**Use a(t) = -32 feet per second2 as acceleration due to gravity for #9 and #10** .

9. A ball is thrown upward from a height of 6 feet with an initial velocity of 60 fps. How high will the ball go?

10. With what initial velocity must a ball be thrown upward (assume from the ground) to reach the top of the Washington Monument?